

We claim:

1. A gear oil composition comprising the following components:

Component A: a base oil having a kinematic viscosity at 100°C of about 4 to about 32 cSt;

Component B: a hydrocarbyl polysulfide with a sulfur activity of greater than about 125 mg in the Copper Corrosion Test;

Component C: a dihydrocarbyl dithiophosphate ester or salt; and

Component D: a dihydrocarbyl (mono)thiophosphate amine salt.

2. The gear oil of claim 1, wherein Component B comprises a mixture of alkyl di-sulfide, alkyl tri-sulfide and alkyl tetra-sulfide.

3. The gear oil of claim 1, wherein Component B comprises a di-*t*-butyl polysulfide.

4. The gear oil of claim 3, wherein said di-*t*-butyl polysulfide comprises less than about 3.5 percent by weight of the gear oil.

5. The gear oil of claim 1, wherein Component C comprises the product of the mixture of dicyclopentadiene and dialkyldithiophosphoric acid.

6. The gear oil of claim 5, wherein the weight percentage of Component C is about 0.1 to about 6.0 percent of the oil.

7. The gear oil of claim 1, wherein Component D is essentially free of phosphites.

8. The gear oil of claim 1, wherein Component D comprises the product of the mixture of dibutylhydrogen phosphite, sulfur and at least one amine.

9. The gear oil of claim 7, wherein the weight percentage of Component D is about 0.01 to about 1.0 percent of the oil.

10. The gear oil of claim 1 further comprising at least one of:
a copper corrosion inhibitor, a rust inhibitor and an antifoam agent.

11. The gear oil of claim 1 further comprising:
a boronated ashless dispersant.
12. The gear oil of claim 11 wherein said dispersant is a succinimide.
13. The gear oil of claim 11 wherein said dispersant is a Mannich base dispersant.